

WHAT IS CLAIMED IS:

1. An image display device, comprising:

first re-size means for reading out image data
from a first memory that stores therein image data,
5 and re-sizing the read-out image data;

a second memory for storing the image data re-
sized by the first re-size means;

display control means for reading out image
data from the second memory and re-sizing the read-
10 out image data in accordance with a variable
magnification manipulation for an image to make
display means display thereon an image of the re-
sized image data; and

re-size control means for, while the variable
15 magnification manipulation is carried out,
instructing the display control means to make the
display means display thereon the image re-sized by
the display control means without newly reading out
the image data from the first memory, and after the
20 variable magnification manipulation is fixed,
instructing the first re-size means to re-size image
data newly read out from the first memory, in
accordance with contents of the fixed variable
magnification manipulation.

25

2. An image display device according to claim 1,
wherein when the contents of the fixed variable

magnification manipulation correspond to a
predetermined condition, the re-size control means
stores image data which is newly read out from the
first memory, into the second memory without re-
5 sizing.

3. An image displaying method, comprising:
a first re-size step of reading out image data
from a first memory that stores therein image data,
10 and re-sizing the read-out image data;
a storing step of storing the image data re-
sized in the first re-size step in a second memory;
and
a display control step of reading out image
15 data from the second memory and re-sizing the read-
out image data in accordance with a variable
magnification manipulation for an image to make a
display device display thereon an image of the re-
sized image data,
20 wherein while the variable magnification
manipulation is carried out, the display control step
re-sizes and displays the image data read out from
the second memory without newly reading out the image
data from the first memory, and after the variable
25 magnification manipulation is fixed, the display
control step makes the first re-size step re-size
image data newly read out from the first memory, in

accordance with contents of the fixed variable
magnification manipulation.

4. An image displaying method according to
5 claim 3, further comprising the step of, when the
contents of the fixed variable magnification
manipulation correspond to a predetermined condition,
storing image data which is newly read out from the
first memory after the variable magnification
10 manipulation is fixed, without re-sizing.

5. A program for making a computer execute an
image displaying method, comprising:

a first re-size module for reading out image
15 data from a first memory that stores therein image
data, and re-sizing the read-out image data;

a storing module for storing the image data re-
sized in the first re-size module in a second memory;
and

20 a display control module for reading out image
data from the second memory and re-sizing the read-
out image data in accordance with a variable
magnification manipulation for an image to make a
display device display thereon an image of the re-
25 sized image data,

wherein the variable magnification manipulation
is carried out, the display control module re-sizes

and displays the image data read out from the second memory without newly reading out the image data from the first memory, and after the variable magnification manipulation is fixed, the display
5 control module makes the first re-size module re-size an image of image data newly read out from the first memory and displays the re-sized image data, in accordance with contents determined through the variable magnification manipulation.

10

6. A video signal processing apparatus,
comprising:

image pickup means for picking up an image;
recording means for recording the picked-up
15 image on a recording medium;
a memory for reading out the picked-up image from the recording medium and temporarily storing therein the read-out image data;
re-size means for reading out the image from
20 the memory and re-sizing the read-out image;
an image display memory for temporarily storing therein the image re-sized by the re-size means, in order to display the image; and
re-size display means for reading out an image
25 in a desired area from the image display memory to re-size and display the read-out image in the desired area,

wherein while a desired variable magnification manipulation is carried out, the re-size display means reads out the image in the desired area to re-size and display the image read out, and after the
5 variable magnification manipulation is fixed, an original image is read out from the memory and is re-sized by the re-size means to be stored in the image display memory, and the desired area of the re-sized image is displayed without re-sizing.

10

7. A video signal processing apparatus according to claim 6, wherein when resolution of the original image becomes insufficient in enlarged image display, after the variable magnification
15 manipulation is fixed out, the original image is stored in the image display memory without being re-sized and the image in the desired area is read out from the image display memory by the re-size display means to be re-sized displayed.

20

8. A video signal processing apparatus according to claim 7, further comprising:
compression means for compressing the picked-up image; and
25 expansion means for expanding the compressed image.

9. A video signal processing apparatus
according to claim 8, further comprising:

raster-to-block conversion means for inputting
raster-sequentially an image signal and generating
5 block-sequentially an image signal of a desired block
size; and

block compression means for receiving the image
signal generated block-sequentially by the raster-to-
block conversion means and compressing the received
10 image signal.

10. A video signal processing apparatus
according to claim 8, further comprising:

block expansion means for expanding the image
15 signal which is received block-sequentially and
compressed by compression means; and

block-to-raster conversion means for receiving
block-sequentially an image signal and generating an
image signal raster-sequentially.

20

11. A video signal processing method,
comprising:

a first storing step of reading out image data
from a recording medium and storing the read-out
25 image data in a first memory;

a re-size step of reading out image data from
the first memory and re-sizing the image data read

out from the first memory;

a second storing step of temporarily storing the image data re-sized in the re-size step in an image display memory to display the image data; and

5 a re-size display step of reading out image data in a desired area from the image display memory to re-size and display the image data in the desired area,

wherein while a variable magnification
10 manipulation is carried out, the image data in the desired area of the image display memory is read out to re-size and display the image data in the desired area, and after the variable magnification manipulation is fixed, image data is read out from
15 the first memory and is re-sized in the re-size step to be stored in the image display memory, and the image data in the desired area in the image display memory is displayed without being re-sized.

20 12. A video signal processing method, comprising:

a first display step of, when contents of a variable magnification manipulation is within a range of resolution of an original image stored in a memory,
25 reading out the original image from the memory to re-size the read-out image data in accordance with the contents and store the re-sized image data in an

image display memory, and displaying a designated range of the image to be stored in the image display memory; and

5 a second display step of, when the contents of the variable magnification manipulation is beyond the range of the resolution of the original image stored in the memory, reading out the original image from the memory to store the read-out image data in the image display memory without re-sizing, and
10 displaying the designated range of the image of the image data to be stored in the image display memory, by re-sizing the designated range in accordance with the contents.

15 13. A video signal processing method according to claim 12, further comprising the step of, while the variable magnification manipulation is carried out, re-sizing the designated range of the image to be stored in the image display memory, with
20 magnification during the manipulation and displaying the re-sizing range.